

## ***Interactive comment on “Differential effects of redox conditions on the decomposition of litter and soil organic matter” by Yang Lin et al.***

**Tida Ge (Referee)**

gtd@isa.ac.cn

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This manuscript studied litter and native soil organic matter decomposition under different redox conditions. Their results showed decomposition of litter and native soil organic matter responded differently to redox manipulation. They revealed microbial consumption of organic matter was more oxidized compounds under anoxic condition. Their results also suggest recalcitrant organic C pool rather than labile organic C pool was significantly affected by redox condition. These findings are interesting and contribute to our knowledge of C dynamics under redox fluctuations. This manuscript is well-written and is recommended to publish after a minor revision. Only several suggestions here for improvement: 1. when describing the result from Fig. 6, please also describe and discuss the NOSC change over time within the same treatment. I

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assume the NOSC were same across all treatments at the beginning on Day 0. On Day 44 NOSC were still same across all treatments. So NOSC in all treatments decreased from Day 0 to Day 44 with the same level. Just under static anoxic condition this decrease was slower than other conditions. You may discuss on this. 2. you may calculate priming effect of SOM decomposition caused by litter addition and compare between four redox conditions. 3. in Fig. 4  $\gamma$  was much higher in static anoxic condition than other conditions. Maybe add discussion on this.

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